



NOAA In Your Territory Puerto Rico

NOAA is an agency that enriches life through science. Our reach goes from the surface of the sun to the depths of the ocean floor as we work to keep citizens informed of the changing environment around them. From daily weather forecasts, severe storm warnings, and climate monitoring to fisheries management, coastal restoration and supporting marine commerce, NOAA's products and services support economic vitality and affect more than one-third of America's gross domestic product. NOAA's dedicated scientists use cutting-edge research and high-tech instrumentation to provide citizens, planners, emergency managers and other decision makers with reliable information they need when they need it.

The following is a summary of NOAA facilities, staff, programs, or activities based in, or focused on, your state or territory: Starting with highlights, then by <u>congressional districts and cities or towns</u>, and then <u>territory-wide</u> <u>programs</u>.

Highlights of NOAA in Puerto Rico

Weather Forecast Office San Juan

Jobos Bay National Estuarine Research Reserve Aguirre

<u>Puerto Rico Sea Grant College Program</u> Mayaguez

Northeast Marine Corridor Culebra Island Habitat Focus Area Fajardo

Puerto Rico is also home to a National Marine Fisheries Service (NMFS) Protected Resources and Habitat Conservation Division Field Office, Science on a Sphere Explorer™ at EcoExploratorio, and several observing platforms.

Aguirre

National Ocean Service (NOS) - Jobos Bay National Estuarine Research Reserve

The National Estuarine Research Reserve System is a network of protected areas focused on long-term research, monitoring, stewardship, education, and training. NOAA's Office for Coastal Management provides funding and national guidance, and each site is managed on a daily basis by a lead state agency or university with input from local partners. The 2,833 acre Jobos Bay Research Reserve was designated in 181 and is managed by the Puerto Rico Department of Natural and Environmental Resources. Habitat found here is home to the endangered brown pelican, peregrine falcon, hawksbill sea turtle, threatened corals, and West Indian manatee.

National Ocean Service (NOS) - Margaret A. Davidson Graduate Fellowship

The Margaret A. Davidson Graduate Fellowship program funds graduate student research and professional development opportunities within the National Estuarine Research Reserve System. The program supports collaborative research addressing local management challenges that may influence future policy and management strategies. The Davidson Fellow at the Jobos Bay National Estuarine Research Reserve will focus their research on developing and implementing a biological condition gradient for nearshore habitats of Puerto Rico.

Fajardo

National Marine Fisheries Service (NMFS), National Ocean Service (NOS), National Environmental Satellite, Data, and Information Service (NESDIS) - Center for Satellite Applications and Research - Northeast Marine Corridor and Culebra Island Habitat Focus Area

As part of the Habitat Blueprint administered by the NOAA Fisheries Office of Habitat Conservation, NOAA has selected ten Habitat Focus Areas (HFAs), place-based locations across the country to maximize the effectiveness of habitat conservation. While each HFA focuses on individual habitat conservation goals outlined in their Implementation Plan, the overarching goal is to demonstrate results in a focused area in a short time period. In Puerto Rico, the NOAA Restoration Center along with NOAA's Coral Reef Conservation Program, NESDIS Coral Reef Watch, NOS Office of Coastal Management, NMFS Southeast Fisheries Science Center and others, have developed an implementation plan and associated action plans for The Northeast Marine Corridor and Culebra Island Habitat Focus Area in Puerto Rico.Primary activities are to restore threatened corals, implement watershed restoration projects, research fishery and recreational impacts to fragile marine ecosystems, and improve the predictions of real-time storm surge, to conserve this area's coral reefs, seagrass beds, mangroves, and the people and animals that depend on them.

San Juan

National Ocean Service (NOS) - Office for Coastal Management

The NOAA Office for Coastal Management practices a partner-based, boots on the ground approach to coastal management. The office currently has staff in the eight regions to provide assistance to local, state/territorial, and regional coastal resource management efforts and facilitate customer feedback and assessments. The office also provides one regionally-focused staff member in both San Juan, Puerto Rico and St. Croix, US Virgin Islands. Both work within their jurisdictions to improve the management of coastal resources, including corals.

National Weather Service (NWS) - Weather Forecast Office

Weather forecast offices are staffed 24/7/365 and provide weather, water, and climate forecasts and warnings to residents of Puerto Rico and the U.S. Virgin Islands. There are 122 WFOs nationwide of which one is in Puerto Rico. Highly trained forecasters issue warnings and forecasts for weather events, including severe thunderstorms, tornadoes, hurricanes, winter storms, floods, and heat waves to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated

in many ways, including wireless emergency alerts, social media, weather.gov, and NOAA Weather Radio All Hazards. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs that strengthen working relationships with local partners in emergency management, government, the media and academic communities. Forecasters provide Impact-based Decision Support Services (IDSS), both remotely and on-site during critical emergencies such as wildfires, floods, chemical spills, and major recovery efforts. To gather data for forecasting and other purposes, NWS WFO staff monitor, maintain and use Automated Surface Observing Stations and Doppler Weather Radar. In addition to the WFOs, NWS operates specialized national prediction centers and regional headquarters throughout the U.S. for a total of 168 operational units. Over 85% of NWS' workforce is in the field. For current weather conditions in Puerto Rico, visit www.weather.gov and, on the national map, click on the relevant county or district.

Office of Oceanic and Atmospheric Research (OAR) - Surface Aerosol Monitoring

NOAA's Earth System Research Laboratory Global Monitoring Laboratory (ESRL/GML) operates surface-based aerosol monitoring sites in sixstates and one territory (Puerto Rico). ESRL/GML's aerosol monitoring capabilities include continental sites in response to the finding that human activities primarily influence aerosols on regional/continental scales rather than on global scales. Aerosols create a significant perturbation of the Earth's radiative balance on regional scales. The measurements made include aerosol optical properties (how the particles absorb and scatter solar radiation), aerosol number concentration and chemical composition of the aerosol particles.

Office of Oceanic and Atmospheric Research (OAR) – Science on a Sphere Explorer™ at EcoExploratorio
Science on a Sphere Explorer™ (SOSx) is a portable, flat-screen virtual globe based on NOAA's 6-foot diameter Science
On a Sphere® display system. This ground-breaking software uses video game technology to make SOS datasets
interactive and more accessible to schools and small museums. SOSx currently has more than 115 space, ocean, and
atmospheric datasets that can be used to explore complex environmental processes.

Entire Territory

National Marine Fisheries Service (NMFS) - Southeast Regional Office and Southeast Fisheries Science Center NMFS studies, protects and conserves living marine resources to promote healthy, functioning marine ecosystems, afford economic opportunities and enhance the quality of life for the American public. NMFS' Southeast Regional Office (headquartered in Saint Petersburg, FL) and Southeast Fisheries Science Center (headquartered in Miami, FL) are responsible for living marine resources in federal waters of the Gulf of Mexico, South Atlantic and U.S. Caribbean. Using the authorities provided by the Magnuson-Stevens Fishery Conservation and Management Act, Endangered Species Act, Marine Mammal Protection Act and other federal statutes, the Southeast Regional Office and Southeast Fisheries Science Center partner together to assess and predict the status of fish stocks, marine mammal and sea turtle populations, as well as other protected resources, including coral. Additionally, in collaboration, they develop and ensure compliance with fishery regulations, restore and protect habitat, and recover threatened and endangered species in waters off Puerto Rico and throughout the Southeast Region. Southeast Regional Office staff located in Puerto Rico provide technical support to Puerto Rico's Coral Program, analyze the impacts of energy and coastal development projects on threatened and endangered species and essential fish habitat, conduct coral and fish habitat research, participate in Commonwealth and regional habitat and protected species planning and restoration efforts, and provide assistance during hazardous material incidents and hurricane events. The Southeast Regional Office also fosters sustainable aquaculture in the region, with two Regional Aquaculture Coordinators that act as a liaison between federal and state agencies to assist in permitting and coordination activities, supporting aquaculture outreach and education, and

collaborating with industry, academia and other stakeholders on regional marine aquaculture issues. The Southeast Fisheries Science Center implements a multi-disciplinary science and research program in support of living marine resource management. The Science Center develops the scientific information required for fishery resource conservation; fishery development and utilization; habitat conservation; the protection of marine mammals, sea turtles and other protected species; impact analyses and environmental assessments for management plans and/or international negotiations; and pursues research to answer specific needs in areas of population dynamics, fishery economics, fishery engineering, food science, and fishery biology.

National Ocean Service (NOS) - Regional Geodetic Advisor

The Regional Geodetic Advisor is a National Ocean Service (NOS) employee that resides in a region and serves as a liaison between the National Geodetic Survey (NGS) and its public, academic and private sector constituents within their assigned region. NGS has a Regional Geodetic Advisor stationed in Raleigh, North Carolina serving the Mid-Atlantic region – Delaware, Georgia, North Carolina, Puerto Rico, Maryland, South Carolina, the Virgin Islands, Virginia, and Washington D.C. The Geodetic Advisor provides training, guidance and assistance to constituents managing geospatial activities that are tied to the National Spatial Reference System (NSRS), the framework and coordinate system for all positioning activities in the Nation. The Geodetic Advisor serves as a subject matter expert in geodesy and regional geodetic issues, collaborating internally across NOS and NOAA to ensure that all regional geospatial activities are properly referenced to the NSRS.

National Ocean Service (NOS) - Navigation Manager

NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in Puerto Rico. They help identify the navigational challenges facing marine transportation in Florida and provide NOAA's resources and services that promote safe and efficient navigation. Navigation managers are on call to provide expertise and NOAA navigation response coordination in case of severe coastal weather events or other marine emergencies. The Office of Coast Survey has a navigation manager in Miami, FL and St. Petersburg, FL to support mariners and stakeholders in the Southeast and Caribbean and Panhandle of Florida.

National Ocean Service (NOS) - Navigation Response Team

The Office of Coast Survey (OCS) maintains the nation's nautical charts and publications for U.S. coasts and the Great Lakes. OCS navigation managers are strategically located in U.S. coastal areas to provide regional support to federal and state agencies in order to assist with navigational challenges. The Office of Coast Survey's Navigation Response Branch (NRB) conducts routine and emergency hydrographic surveys; and working with the regional Navigation Managers, navigation response teams (NRT) work around-the-clock after storms to speed the reopening of ports and waterways. During emergency response, the NRTs provide time-sensitive information to the U.S. Coast Guard or port officials, and transmit data to NOAA cartographers for updating Coast Survey's suite of navigational charts. Mobile integrated response team (MIST) kits are available to the Great Lakes that can be used on a vessel of opportunity and staffed by NRT members.

National Weather Service (NWS) - <u>Automated Surface Observing Systems Stations</u>

The Automated Surface Observing Systems (ASOS) program is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). ASOS serves as the Nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities. ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year observing basic weather

elements, such as cloud cover, precipitation, wind, sea level pressure, and conditions, such as rain, snow, freezing rain, thunderstorms, and fog. There are two ASOS stations in Puerto Rico.

National Weather Service (NWS) - Cooperative Observer Program Sites

The National Weather Service (NWS) Cooperative Observer Program (COOP) is truly the Nation's weather and climate observing network of, by and for the people. More than 10,000 volunteers take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The data are representative of where people live, work and play. The COOP was formally created in 1890 under the NWS Organic Act to provide observational meteorological data, usually consisting of daily maximum and minimum temperatures, snowfall, and 24-hour precipitation totals, required to define the climate of the United States and to help measure long-term climate changes, and to provide observational meteorological data in near real-time to support forecast, warning and other public service programs of the NWS. The data are also used by other federal (including the Department of Homeland Security), state and local entities, as well as private companies (such as the energy and insurance industries). In some cases, the data are used to make billions of dollars' worth of decisions. For example, the energy sector uses COOP data to calculate the Heating and Cooling Degree Days which are used to determine individuals' energy bills monthly. There are 60 COOP sites in Puerto Rico.

National Weather Service (NWS) - NOAA Weather Radio All Hazards Transmitters

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service (NWS) forecast office. NWR broadcasts official NWS warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "All Hazards" radio network, making it the single source for comprehensive weather and emergency information. In conjunction with federal, state, and local emergency managers and other public officials, NWR also broadcasts warning and post-event information for all types of hazards – including natural (such as earthquakes or avalanches), environmental (such as chemical releases or oil spills), and public safety (such as AMBER alerts or 911 Telephone outages). Known as the "Voice of NOAA's National Weather Service," NWR is provided as a public service by the NWS. NWR includes 1,100 transmitters covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. There are two NWR transmitters in Puerto Rico.

National Weather Service (NWS) - Caribbean Tsunami Warning Program

The Caribbean Tsunami Warning Program supports domestic and international tsunami warning services and programs in the Caribbean and adjacent regions. The office focuses on strengthening and sustaining the tsunami observational system as well as the continued enhancement of tsunami outreach, education and readiness, including the implementation of the IsunamiReady® and international Tsunami Ready Programs.

Office of Oceanic and Atmospheric Research (OAR) - Puerto Rico Sea Grant College Program

The National Sea Grant College Program (Sea Grant) is a federal-university partnership administered by NOAA that integrates research, extension outreach, and education. Sea Grant forms a national network of 34 programs in all U.S. coastal and Great Lakes states, Puerto Rico, and Guam. Puerto Rico Sea Grant is located at the University of Puerto Rico and is devoted to the conservation and sustainable use of coastal and marine resources in Puerto Rico, the U.S. Virgin Islands and the Caribbean region. The program's mission is two-fold: to conduct excellent scientific research in the areas of water quality, fisheries and mariculture, seafood safety, marine recreation and coastal tourism, coastal hazards and coastal communities economic development; and to apply scientific knowledge to solve a variety of problems their communities of users face every day. Puerto Rico Sea Grant disseminates research findings through a variety of

dissemination activities (conferences, workshops and talks), educational products, publications, magazines, Internet and social media platforms. Administrative offices are located in Mayaguez.

National Marine Fisheries Service (NMFS) and National Ocean Service (NOS) - <u>Damage Assessment</u>, <u>Remediation</u>, and <u>Restoration Program</u>

NOAA's Damage Assessment, Remediation, and Restoration Program (DARRP) assesses and restores habitat, fisheries, protected species and recreational uses that have been harmed by oil spills, chemical releases, and ship groundings. Working with federal, state, and tribal entities, and responsible parties, we have recovered funding from responsible parties\$10.4 billion for restoration of critical habitats, fisheries, protected species and recreational uses nationwide. These projects promote recovery of the ecosystem and provide economic benefits from tourism, recreation, green jobs, coastal resiliency, property values and quality of life. In Puerto Rico, the Program is currently working to restore natural resources in cases including the T/V Port Stewart, T/V Magara, and LNG/C Matthew ship groundings.

National Marine Fisheries Service (NMFS) - Deep-Sea Coral Research and Technology Program

NOAA's Deep Sea Coral Research and Technology Program is the only federal program dedicated to mapping, characterizing, and understanding deep-sea coral ecosystems, and sharing the information needed to conserve these habitats. The Program -- called for in the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act -- is working with other NOAA offices and external partners to conduct fieldwork to study the distribution, abundance, and diversity of deep sea corals and sponges. Since 2009, more than 42,500 square miles of seafloor have been mapped and surveyed for deep-sea coral habitats from Florida to Maine, in Alaska and the West Coast, and in Hawaii and the Marianas Trench. In FY 2019, research is being prioritized in two regions -- the southeast (states include VA, NC, SC, GA, FL, AL, MS, LA, TX, and the Caribbean islands including Puerto Rico) and the west coast (WA, OR, CA).

National Marine Fisheries Service (NMFS) - Cooperation with States Program and Species Recovery Grants
Under the authority of section 6 of the Endangered Species Act, the Cooperation with States Program brings states,
NMFS, and other partners together to recover threatened and endangered species. A total of 25 coastal states and U.S.
territories, including Puerto Rico, currently participate in this program. Competitive grants are awarded to states through
the Species Recovery Grant Program to support management, monitoring, research and outreach efforts for species that
spend all or a portion of their life cycle in state waters. The funded work is designed to prevent extinctions or reverse the
decline of species, and restore ecosystems and their related socioeconomic benefits. The Puerto Rico Department of
Natural and Environmental Resources has received multiple awards through this program, including grants to support
projects focused on hawksbill and green sea turtles.

National Marine Fisheries Service (NMFS) - Sea Turtle Salvage and Stranding Network

The Sea Turtle Stranding and Salvage Network (STSSN) was formally established in 1980 to collect information on and document strandings of marine turtles along the U.S. Gulf of Mexico and Atlantic coasts. The network, which includes federal, state and private partners, encompasses the coastal areas of the eighteen-state region from Maine to Texas, and includes portions of the U.S. Caribbean. Data gathered by the Network helps inform bycatch reduction efforts, monitor factors affecting turtle health, and provide other information needed for sea turtle management and population recovery.

National Marine Fisheries Service (NMFS) - <u>National Marine Mammal Stranding Network</u> and <u>John H. Prescott</u> <u>Marine Mammal Rescue Assistance Grant Program</u>

The National Marine Mammal Stranding Network and its trained professionals respond to dead or live marine mammals in distress that are stranded, entangled, out of habitat or otherwise in peril. Our long-standing partnership with the Network

provides valuable environmental intelligence, helping NOAA establish links among the health of marine mammals, coastal ecosystems, and coastal communities as well as develop effective conservation programs for marine mammal populations in the wild. In FY20, 43 competitive grants were awarded nationwide for a total of \$3.7 million.

National Ocean Service (NOS) - Coastal and Estuarine Land Conservation Program

The Coastal and Estuarine Land Conservation Program brings conservation partners together to protect coastal and estuarine lands considered important for their ecological, conservation, recreational, historical, or aesthetic values. Subject to availability of funding, the program provides state and local governments with matching funds to purchase coastal and estuarine lands or obtain conservation easements for important lands threatened by development. Since 2002, the program has protected more than 110,000 acres of coastal land nationally, including over 16,000 acres protected as in-kind matching contributions. NOAA awarded two grants in Puerto Rico, and these lands are protected in perpetuity.

National Ocean Service (NOS) - Coral Reef Conservation Program

NOAA's Coral Reef Conservation Program brings together multidisciplinary expertise from over 30 NOAA offices and partners to protect, conserve, and restore coral reef resources. The program focuses on three threats to coral reefs - climate change, unsustainable fishing practices, and land-based sources of pollution - as well as coral reef restoration. In response to identified threats and management priorities developed by coral reef managers in Puerto Rico, the program invests in initiatives to manage uses of marine and coastal areas to reduce impacts to coral reef habitats, and implement land-use planning to improve water quality by reducing sediment loads. These activities also help protect commercial, recreational, and artisanal coral reef fisheries. In response to damage from Hurricane Maria, the program worked with FEMA, other NOAA partners, and local partners to conduct coral reef assessments and emergency triage, including reattaching over 15,000 coral fragments dislodged by the storm. NOAA's coral management liaison, stationed in San Juan, works with Puerto Rico's Coral Reef Conservation and Management Program and local partners.

National Ocean Service (NOS) - National Coastal Zone Management Program

Through a unique federal-state partnership, NOAA's Office for Coastal Management works with the Puerto Rico Department of Natural and Environmental Resources to implement the National Coastal Zone Management Program in Puerto Rico. NOAA provides the state coastal management program with financial and technical assistance to further the goals of the Coastal Zone Management Act and ensure coastal waters and lands are used in a balanced way to support jobs, reduce use conflicts, and sustain natural resources. The liaison between the PR Coastal Management Program and NOAA is stationed on island in San Juan, PR.

National Ocean Service (NOS) - Digital Coast

The Digital Coast is a focused information resource developed to meet the unique needs of coastal communities. Developed and maintained by NOAA's Office for Coastal Management, content comes from hundreds of organizations, including federal, state, and local agencies, plus private sector and non-profit contributors. The Digital Coast website provides not only site-specific coastal data, but also related the tools, training, and information needed to make these data useful for coastal decision makers.

National Ocean Service (NOS) - National Coastal Resilience Fund

The National Coastal Resilience Fund is a partnership effort between NOAA and the National Fish and Wildlife Foundation (NFWF) to restore, increase, and strengthen natural infrastructure to protect coastal communities, while also enhancing habitat for fish and wildlife. In Puerto Rico, the NCRF awarded two projects in FY18, three in FY19, and one in FY20.

National Ocean Service (NOS) - OR&R Scientific Support Coordinator and Regional Resource Coordinator

NOAA's Office of Response and Restoration (OR&R) brings decades of experience, technical expertise and scientific analysis in response to oil and hazardous chemical spills. Eleven regionally based Scientific Support Coordinators (SSCs) harness the input of a multi-disciplinary team to address issues such as oil slick trajectory forecasting, environmental tradeoffs, best practices, resources at risk, and chemical hazard assessment to reduce risks to coastal habitats and resources. OR&R also helps develop preparedness plans that identify spill response actions with the greatest environmental benefit and trains hundreds of members of the response community each year on the scientific and technical aspects of spills. The SSC provides support from local emergencies to events that draw national attention like Hurricane Maria. The SSC for Puerto Rico is located in Miami, FL.

OR&R identifies and quantifies environmental injury caused by releases of oil and hazardous materials. Our network of Regional Resource Coordinators (RRC's) work on multi-disciplinary scientific, economic, and legal teams with the goal of securing the appropriate amount and type of restoration required to restore injured NOAA trust resources and compensate the public for their lost use. We collaborate with NMFS Restoration Center and NOAA General Council through the Damage Assessment, Remediation, and Restoration Program to ensure the process is efficient, legally defensible and restoration focused. To date, DARRP and co-trustees have recovered \$17.5M for restoration of natural resources injured by five vessel groundings in coral habitats in Puerto Rico.

National Ocean Service (NOS) - OR&R Caribbean Environmental Response Management Application

Assessing important spatial information and designing successful restoration projects rely upon interpreting and mapping geographic information, including the location, duration, and impacts from oil spills, other hazardous materials, or debris released into the environment. Caribbean Environmental Response Management Application (ERMA®) is an online mapping tool that integrates both static and real-time spatial data, such as Environmental Sensitivity Index maps, ship locations, weather, and habitat maps, in a centralized, easy-to-use format to assist environmental responders and decision makers. Caribbean ERMA has been used to visualize environmental response data during regional response drills, to map small vessel groundings near coral reefs, and to assist in identifying hazardous facilities and natural resources affected by recent hurricanes.

National Ocean Service (NOS) - OR&R Marine Debris Projects and Partnerships

The NOAA Marine Debris Program (MDP) leads national and international efforts to research, prevent, and reduce the impacts of marine debris. The MDP supports marine debris removal, prevention, and research projects in partnership with state and local agencies, tribes, non-governmental organizations, academia, and industry. The MDP Florida and Caribbean Regional Coordinator supports coordination efforts with regional stakeholders, provides support to grant-funded projects, tracks progress of projects, and conducts regional marine debris outreach to local audiences. The MDP Hurricane Response Coordinator, based in San Juan, works with states and territories to assess, remove, and dispose of hurricane related marine debris. In the waters off eastern Puerto Rico, the MDP is partnering with the Ocean Foundation, Conservación ConCiencia, and local fishers to remove derelict fish traps. The project will also include learning exchanges between Puerto Rico and U.S. Virgin Islands dive fishers to share knowledge, experiences, and best practices to collaboratively tackle debris in the region. Additionally, the MDP is partnering with Puerto Rico's Department of Natural and Environmental Resources to remove debris from Hurricanes Irma and Maria at a variety of locations around Puerto Rico and the nearshore waters of Vieques and Culebra Islands. The MDP is also working with federal and territory agencies, local governments, and other stakeholders, to develop the Puerto Rico Marine Debris Emergency Response Guide.

National Ocean Service (NOS) - National Water Level Observation Network

The National Ocean Service (NOS) operates six long-term, continuously operating tide stations in Puerto Rico, which provide data and information on tidal datum and relative mean sea level trends, and are capable of producing real-time data for storm surge warning. These stations are located at Culebra, Magueyes Island, Mayaguez, Mona Island, San Juan, and Vieques Island. Each station is associated with a set of tidal benchmarks installed in the ground that is used to reference the height of the water levels and helps connect the water level to land.

National Ocean Service (NOS) - <u>U.S. Integrated Ocean Observing System</u> (<u>Caribbean Coastal Ocean Observing System</u>)

The U.S. Integrated Ocean Observing System, or IOOS®, is a federally and regionally coordinated observing system with 17 interagency and 11 regional partners. The System addresses regional and national needs for coastal, ocean, and Great Lakes data and information. This includes gathering and disseminating regional observations; data management; modeling and analysis; education and outreach; and research and development. The Caribbean Coastal Ocean Observing System (CARICOOS), is one of 11 IOOS regional coastal ocean observing systems, is driving implementation of IOOS for Puerto Rico and the U.S. Virgin Islands, focused on meeting identified stakeholder needs for improved real time data products and forecasts of coastal weather (winds, waves and currents), water quality and hurricane-driven inundation for the U.S. Caribbean Exclusive Economic Zone (EEZ).

National Marine Fisheries Service (NMFS) - Office of Law Enforcement

NOAA's Office of Law Enforcement is the only conservation enforcement program (Federal or State) that is exclusively dedicated to Federal fisheries and marine resource enforcement. Its mission is to protect global marine resources by enforcing domestic laws and international treaties and obligations dedicated to protecting wildlife and their natural habitat. Our special agents and enforcement officers ensure compliance with these laws and take enforcement action if there are violations. Additionally, the Cooperative Enforcement Program allows NOAA the ability to leverage the resources and assistance of 27 coastal states and U.S. territorial marine conservation law enforcement agencies in direct support of the Federal enforcement mission. Effective fisheries law enforcement is critical to creating a level playing field for U.S. fishermen and enabling sustainable fisheries to support vibrant coastal communities. The San Juan field office is part of the Office of Law Enforcement's Southeast Division.

National Ocean Service (NOS) - Students for Zero Waste Week

Students are inviting their local communities to "Go Green and Think Blue" by joining them in the annual *Students for Zero Waste Week campaign*. During this campaign led by the Office of National Marine Sanctuaries, students focus on reducing land-based waste in order to protect the health of local marine environments. These young leaders are raising awareness of how single-use plastic and other types of litter affect the health of local watersheds, national marine sanctuaries, and the ocean. In addition, some schools are looking at ways to reduce their energy use on campus with hopes of raising awareness of how the burning of fossil fuels also impacts the health of the ocean.

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More information for those offices may be found at NOAA.gov.